

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001110**Date Inspected:** 25-Dec-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

<b>CWI Name:</b>	ZPMC- Sun Wei, Ye Yong Jun and CWI Presenting			<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No N/A</b>

**Bridge No:** 34-0006**Component:** 114m, 89m and 77m Mock-up**Summary of Items Observed:**

On this date, the Caltrans Quality Assurance (QA) representative, John P. Tracy, conducted assessments while on site at Zhenhua Port Machinery Company (ZPMC) for Caltrans Project 04-0120F4-SAS. The following is the detailed review of the following observations:

Bay 1: Submerged Arc Weld (SAW) gantry welder is inactive. ZPMC continues to set up the equipment; however, no thermal operations have been noted for project components. The #1 deck mock-up, closed U-rib Partial Joint Penetration (PJP) welds are being evaluated by American Bridge Fabricator (ABF) by means of Angle Beam Ultrasonic Testing (ABUT). The area is set up for ABUT and operations are on going.

Bay 2 operations: The 77m mock-up has fit-up and tack welding complete. ZPMC welders are installing run-off tabs and lifting lugs to the exterior per WPS-B-P-2213-TC-U5B with Shielded Metal Arc Weld (SMAW) process by ZPMC welders: Jiang Xiaohu (066155), Li Dong (066256), He Shibing (066243) and Xu Wei (066253).

89m mock-up, MUSB-MA25 shear link has welding operation continuing for lower flange to web joint# MUSB-MA25-16A and 16B under WPS-B-T-2232-TC-U5-Flux Core Arc Weld (FCAW) for the thinner sections and WPS-B-T-3212-TC-U5b SMAW (for thicker sections) with ZPMC welder Li Shuqiang (053609) performing these operations. ZPMC Certified Welding Inspector (CWI), Sun Wei, was present for the welding. Following welding observations for weld # 16B, it was noted that the welder had created unfavorable weld profiles of overlap/excessive reinforcement during the course of his actions. Having also recognized the situation, ZPMC elected to remove the adverse geometry with a mechanical grinder.

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## WELDING INSPECTION REPORT

( Continued Page 2 of 4 )

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89m MUSB-MA21 (Skin E) to SA215 doubler plate for weld numbers MUSB-MA21 B/J -5 and -6 require a 10mm fillet weld per the approved drawings. CWI Ye Yong Jun and ZPMC Quality Control (QC) inspector- Zhang Lei recognized this and pointed two areas on these welds that appeared to be lacking reinforcement. ZPMC notified the Caltrans representative that notification would be given to ABF for disposition and that additional weld material may be added. Further action is pending.

89m MUSB-MA22 (Skin D) ZPMC is welding the connection plates to the top of the longitudinal stiffeners via SMAW process. The root pass is in for MUSB-MA22 B/B -13 through -20 under WPS-B-T-4312-TC-P5-1. ZPMC is performed Dry Magnetic Particle Testing (DMT) inspection on the root passes and appeared to be in accordance with the criteria set forth within the contractual documents.

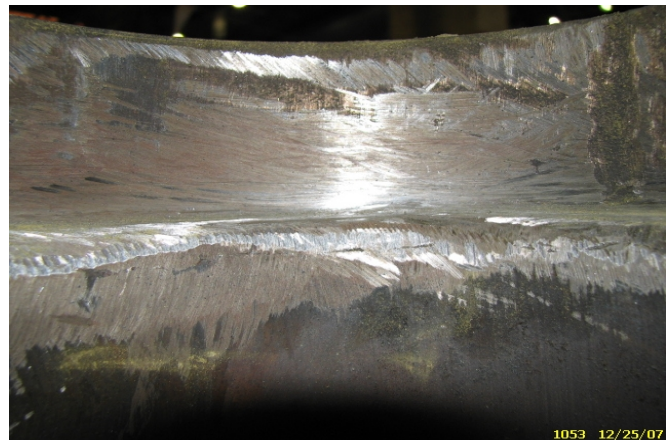
114m Upper Section mock-up has SAW operations ongoing on weld number MUC-MA106 B/C-5A under WPS-B-T-2221-C-U2b-S with Xu Yan (052917) welding and Lu Jian Ping, ZPMC CWI, was present. The following Parameters were taken by the Caltrans QA representative. Average Amps: 700, Volts: 34.5, Travel Speed: 630 mm/minute.

114m Lower Section mock-up has SAW operations ongoing on weld number MUC-MA107 B/C-4A under WPS-B-T-2221-C-U2b-S with Chen Hongxia (040460) welding and Zhao Chen Sun, ZPMC CWI, and ZPMC Quality Control (QC) Tang Yajun plus Bureau Veritas Representative Li Yi Feng were present. Weld number MUC-MA107 B/C-3A was completed during off shift. The Caltrans Representative observed QC taking welding parameters during the course of depositing weld material. The values appear to be in accordance with the criteria set forth within the contractual documents.

114m interior splice plates MUC-A75 (Plate D) and MUC-A79 (Plate E) have returned from machining. ZPMC is boring the bolt holes into the splice plates.

Electrode Storage Room- The consumable electrode issue logs are still completely written in Chinese characters and after several attempts to rectify them. Temperatures appear to be within parameters for storage. No drying temperatures have been observed.

Included below are digital pictures that support the observations recorded within this report.





# WELDING INSPECTION REPORT

( Continued Page 3 of 4 )



## Summary of Conversations:

At the completion of the above stated dimensional inspections the ZPMC Certified Welding Inspectors, Sun Wei, Ye Yong Jun and Lu Jian Ping, reported that the parameters followed and their noted results were found to be in accordance with the criteria set forth within the contractual documents.

The Caltrans representative had discussions with ABF inspectors, Mr. Kevin Dye and Mr. David LaRue, in regards to the cleaning practices on MUSB-MA22-Skin D. Both inspectors concurred with the findings and stated that they would address the situation.

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## WELDING INSPECTION REPORT

( Continued Page 4 of 4 )

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### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Tracy,John	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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